

Application No: 09/866,822
Attorney's Docket No: US 010264

REMARKS/ARGUMENTS

Applicant acknowledges receipt of the Office Action dated April 4, 2006. Reconsideration and further examination of claims 1-4 and 10-12 is respectfully requested.

Claims 1-4 and 10-12 are pending in this application. For this amendment, claims 1, 2, 10, and 12 are amended.

REJECTION UNDER 35 U.S.C. § 112

In section 2, on page 2, the Office Action rejects claims 1-4 and 10-12 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. The basis for this rejection pertains to the inclusion of the word "continuously" and the word "continues" in the claims. The claims are amended to omit these words. For at least the forgoing reasons, it is respectfully requested that the rejection of claims 1-4 and 10-12 as allegedly failing to comply with the written description requirement be withdrawn.

REJECTION UNDER 35 U.S.C. § 102

Claims 2, 3, 10, and 12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Tsujimoto (U.S. Patent No. 5,345,476). In view of the amendment set forth above and the following remarks, the anticipation rejection is respectfully traversed.

By way of review, Tsujimoto relates to an interference canceller with feedforward transversal filter having switched tap-gain coefficients. The interference canceller is illustrated in FIG. 2. An intermediate frequency signal is applied to a feedforward transversal filter 12 as a signal containing a

Application No: 09/866,822
Attorney's Docket No: US 010264

desired signal S_n and an interference signal J_n . See col. 3, ln. 39-42. Feedforward filter 12 produces an output signal $S' + J'$. See col. 4, ln. 19-38. A subtractor 13 then receives the output signal and the negative input of the subtractor 13 receives an interference estimate J . Id. A feedback transversal filter is connected to the output of decision circuit 15 to compensate for postcursor distortion by supplying an error signal S_e to the subtractor 14. Id. A second feedback filter, or replica filter 18, is connected to the output of the decision circuit 15 for nonlinearly filtering the recovered output signal to produce an estimate S'' of the desired signal S' . See col. 4, ln. 39-44. The estimate S'' is subtracted by subtractor 19 from the output signal $S' + J'$ of the feedforward filter 12 to provide the interference estimate J'' to subtractor 13 when the gate circuit 20 is closed. Id. In the presence of an interference from an undesired source, the interference detector 21 produces a gate signal, causing gate circuit 44 to establish a circuit between subtractors 19 and 13 and gate circuit 44 to nullify the outputs of complex multipliers 41₁ and 41₂. See col. 5, ln. 37-41.

Claim 2, as amended, recites a "decision feedback equalizer (DFE) . . . wherein the second adder, the decision device, and the N-tap filter constitute a second feedback loop . . . free of an implementation delay associated with the first feedback loop . . . and the output of the decision feedback equalizer is common with an input of the decision device." Tsujimoto does not disclose, teach or suggest a second feedback loop free of an implementation delay associated with the first feedback loop. As shown in FIG. 2, the interference canceller of Tsujimoto includes a gate circuit 20. In the presence of an interference from an undesired signal source, the gate circuit establishes a circuit between subtractors 19 and 13 and gate circuit 44. Thus the second feedback loop of Tsujimoto experiences an implementation delay. Moreover, as the Examiner noted in the Office

Application No: 09/866,822
Attorney's Docket No: US 010264

Action dated November 1, 2005, Lim does not disclose "wherein the output of the decision feedback equalizer is common with an input of the decision device."

Independent claims 10 and 12 also recite "that the second feed back signal is free of an implementation delay." Thus, it is respectfully submitted that claims 10 and 12 are allowable for reasons similar to the reasons stated above in connection with claim 2. Claim 3 is allowable based on its dependency from claim 2 for the reasons stated above in connection with claim 2. Accordingly, it is respectfully submitted that claims 2, 3, 10, and 12 are not anticipated by Tsujimoto nor rendered obvious by Tsujimoto in view of Lim. Reconsideration and withdrawal of the outstanding anticipation rejection are respectfully requested.

REJECTION UNDER 35 U.S.C. § 103

Claims 1, 4, and 11 stand rejected under 35 U.S.C. § 103(a) as obvious over Lim (U.S. Patent No. 5,748,674) in view of Tsujimoto. In view of the amendment set forth above and the following remarks, the outstanding obviousness rejections are respectfully traversed.

By way of review, Lim relates to a decision-feedback equalizer for a digital communication system. The decision feedback equalizer is illustrated in FIG. 6. The decision feedback equalizer includes a feedforward filter 10, a subtractor 20, a slicer 30, a first feedback filter 50, a second feedback filter 60, and an adder 70. See col. 4, ln. 23-38. When a digital signal is outputted from the transmission terminal is received, the feedforward filter 10 filters a pre-cursor ISI signal. See col. 4, ln. 53-57. The first feedback filter 50 receives a predetermined symbol outputted from the slicer 30 and outputs a post-cursor ISI signal with a pipelining delay. See col. 4, ln. 58-64. The

Application No: 09/866,822
Attorney's Docket No: US 010264

second feedback filter 60 also receives the predetermined symbol and outputs a post-cursor ISI signal within the predetermined pipelining delay outputted from the first feedback filter 50. Id.

Claim 1, as amended, recites "first and second feedback equalizer signals . . . wherein the second feedback equalizer signal is supplied as output from a second feedback loop and is free of the implementation delay . . . and wherein the output of the decision feedback equalizer is common with an input of the decision device." As the Examiner noted in the Office Action dated November 1, 2005, Lim does not disclose "wherein the output of the decision feedback equalizer is common with an input of the decision device." Moreover, as discussed above with relation to claims 2, 10 and 12, Tsujimoto fails to disclose "first and second feedback equalizer signals . . . wherein the second feedback equalizer signal is supplied as output from a second feedback loop and is free of the implementation delay."

Claims 4 and 11 are allowable by virtue of their dependencies for the reasons stated above with regard to claims 2 and 10. Accordingly, it is respectfully submitted that claims 1, 4, and 11 are not rendered obvious by Tsujimoto in view of Lim. Reconsideration and withdrawal of the outstanding obviousness rejection as applied to claims 1, 4 and 11 are respectfully requested.

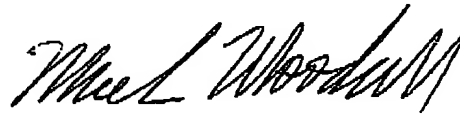
CONCLUSION

While we believe that the instant amendment places the application in condition for allowance, should the Examiner have any further comments or suggestions, it is respectfully requested that the Examiner telephone the undersigned attorney in order to expeditiously resolve any outstanding issues.

Application No: 09/866,822
Attorney's Docket No: US 010264

In the event that the fees submitted prove to be insufficient in connection with the filing of this paper, please charge our Deposit Account Number 50-0578 and please credit any excess fees to such Deposit Account.

Respectfully submitted,
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